INFORMATION TECHNOLOGY PORTFOLIO STRUCTURE AND CONTENT STANDARD

ADVISORY

This draft is the basis of the pilot implementation of baseline IT portfolios by a group of volunteer agencies. This document is subject to change. It is also being provided to a wider group of agencies for their review and, at their discretion, pre-planning.

Data from the Current Reporting Cycle

Subsections A through F of Section 3 have been completed for the current reporting cycle through the Biennial Performance Report and the Year 2000 compliance effort. There may be a need to revisit the categories based on lessons learned through the pilot process.

Year 2000: 4-Digit Year Compliance

In November 1998, the Information Services Board (ISB) adopted a clarification statement on interface issues in its *Year 2000 Date Field Compliance and Certification Policy* to include a requirement that agencies indicate each system's status related to 4-Digit Year Compliance. The amended Year 2000 policy is available by following the link to "Approved Documents" on the Portfolio Management Web site at http://www.wa.gov/dis/portfolio. The clarification is reflected in Sections 3 through 5 of the *IT Portfolio Structure and Content Standard* and their corresponding appendixes (C through E).

Questions should be referred to your DIS Senior Technology Management Consultant.

INFORMATION TECHNOLOGY PORTFOLIO STRUCTURE AND CONTENT STANDARD

INTRODUCTION

The information technology (IT) portfolio is a tool for making better decisions about your agency's investment in computers, computer software, networks, and supporting facilities. In effect, it is a summary containing the essential information required for effective executive management and oversight of technology within the agency. It does not replace the agency's existing technology management structure, although it will simplify the sharing of management information within the agency and between agencies. It should be presented in a document with a portfolio overview that highlights the most important information in the portfolio from a management perspective.

The portfolio contains essential information about the agency's use of IT. Its focus is on the relationships between IT and agency plans and programs. The portfolio includes information about business strategies, operational systems, potential investments, development projects, and technical standards and capabilities.

Given the wide audience for the portfolio document, it should be written in a clear, compelling, non-technical manner. The baseline portfolio contains five sections:

Section 1: Agency Portfolio Overview provides a high level description and analysis of the agency IT portfolio.

Section 2: Agency Strategic Business Plan has the same content and format as the strategic business planning material required in conjunction with the budget process. It has been included in the IT portfolio to help strengthen the bond between the agency's use of technology and its mission, strategies, and business processes.

Section 3: Agency Technology Infrastructure is a baseline document that defines the current inventory of systems, defines their functionality, describes the architecture and provides the core of IT capacity in the current period. It also addresses operating environment requirements including planning related to IT security and disaster recovery and business resumption.

Section 4: Technology Investment/Project Summaries is based on documentation that is routinely required for effective project management. The information is drawn from feasibility studies and, if they exist, the associated project agreements.

Section 5: Planned Investments/Projects provides an opportunity for agency executives to view IT investment alternatives in context, rather than as isolated projects.
The contents of the portfolio are drawn from documents that have already been created by each agency in conjunction with its regular management processes.

The sections that comprise an agency's IT portfolio are described in the following pages. The required content of each section represents a minimum standard core of information that must be included in each agency's portfolio. Agency executives may choose to include additional information at their discretion.

A copy of the completed agency IT portfolio (Sections 1 through 5), together with updates as needed and/or required, is submitted to the Department of Information Services (DIS).

As a default, DIS accepts paper-based or hard copy submissions of agency portfolios. DIS encourages the submission of portfolios in electronic forms (Microsoft Word or hyper text markup language (html), for example) that support hyperlinks to supporting documents. DIS also encourages agencies to include such links to any supporting documentation that is available online. Links should include full Uniform Resource Locator (URL). Please contact your DIS Senior Technology Management Consultant to confirm acceptable electronic formats prior to developing your submission.

IT portfolios contain important management information. To facilitate ready access and updates, submitted portfolios may be posted by the originating agency on the state intranet.

PORTFOLIO DOCUMENT CONTENTS

The IT portfolio serves both external and internal constituents. To maximize its value, it should include IT investments (current and proposed) that are important to the agency. Importance can be measured a number of ways, all of which should be considered in evaluating potential entries. Agencies should be mindful of mission criticality; cost and budgetary implications; impact on citizens; visibility to the public and Legislature; impact on state operations; organizational readiness (capability); organizational impact; the level of development effort; and the nature of the technology (new vs. mature).

Agencies should evaluate potential portfolio entries against the criteria set out in the severity and risk matrices found in Appendix A of this document.

Generally, any project, investment, acquisition or asset ranking high in any matrix category should be included in an agency portfolio. Similarly, any such project, investment, acquisition or asset with a number at medium rankings should also be considered for inclusion. Projects, investments, acquisitions and assets should be prioritized for entry in the portfolio, beginning with the most important initiatives. Projects with equal importance may be clustered if necessary, and the clusters ranked.

The information required on each project has been streamlined to encourage agencies to create as comprehensive an IT Portfolio as possible.

The contents of each section are described below.

Section 1: Agency Portfolio Overview

A. Purpose

Describe the purpose or value of the portfolio to your executive management in managing IT as a vital agency resource.

B. Convergence of Business Mission and IT Vision

[Links IT to the strategic business plan in Section 2.]

Describe your agency's mission and its primary business objectives. What business is your agency in? What legislative mandates does your agency have? What is your agency's vision to accomplish its mission? How well do your current IT investments support the business objectives? How important is IT in helping you meet your agency's business goals? What future investments or changes in investment strategy need to be made (if any) in order to strengthen IT support of the agency's mission?

C. Overview of Infrastructure

[High level view of data from Sections 3 and 4 of portfolio combined with a summary of the "Internal resource assessment – staff, technology" from Section 2.]

Provide a high level, enterprise-wide view of the current IT investment (hardware, software, networks, and critical applications), and the schematic of IT Structures (locations/nodes, physical facilities, networks, etc.). Who is doing the work (people, Full-Time Equivalents, etc.) and how (copy of IT organizational chart – centralized vs. decentralized)?

D. Analysis

[Adapted from DNR's IT Portfolio Analysis, using data from Section 3 and 4.]

Describe as a percentage (and/or represent graphically) current and projected allocation of resources by category or functional unit. Examples: application development, infrastructure development, major systems, maintenance costs, and/or functional distinctions that reflect the agency's structure and business model. The term "resources" includes labor, contractual services, infrastructure, and overhead, measured in dollars.

E. Challenges and Opportunities

[Builds on analysis (above) combined with "Risks, Obstacles and Opportunities" from Section 2.]

Given the state of technology used by agencies today, what challenges does your agency face? What does your agency need to succeed? Are there opportunities for data or resource sharing that could be explored? How can your agency contribute to achieving the state's IT plan?

F. Solutions: Current and future IT investments
[Narrative overview of Section 4 and 5, tied back to Section 2.]

In addressing this subject, consider the following: How can your agency apply IT to achieve its business objectives now and in the future? What does success look like? How will the challenges be addressed? Provide an overview of current "In-development" projects (number and nature). Describe planned projects in terms of: a) meeting business objectives; b) impact on existing investments (changes to applications, networks, etc.); c) consistency with state's IT strategic plan; and d) priority of project or cluster of projects, and justification of this priority.

G. Prioritization Process

Describe your agency's management process for prioritizing IT resources.

Section 2: Agency Strategic Business Plan

The Agency Strategic Business Plan section of the Portfolio is to help ensure that current and proposed technology investments are aligned with the agency's vision for the future and directly support its business processes. The summary information included in this section duplicates the information that each agency must currently provide in conjunction with its biennial budget proposals.

Section 2 of the portfolio is prepared in accordance with the biennial budget instruction issued by the Office of Financial Management (OFM). A copy of, or hyperlink to, that submittal will suffice to provide the data required in this section. **Note: Agencies with separately elected officials are not required to prepare a Strategic Business Plan.**

Section 3: Agency Technology Infrastructure

An agency's technical infrastructure is a platform for future technology investments and a constraint limiting the investments that can be cost-effectively pursued. This section of the portfolio provides a convenient reference for executives engaged in planning and managing their agency's use of IT. The information to be included here parallels that which was collected in conjunction with the Year 2000 Program and the Biennial IT Performance Report.

Subsections A through F have been completed for the current reporting cycle through the Performance Report and the Year 2000 compliance effort. The requirements for completing this Section are itemized in Appendix C.

Section 4: Technology Investment/Project Summaries

The information included in the Technology Investment/Project Summaries section is a summary of key information extracted from project documentation, including but not limited to project feasibility study reports and project quality assurance plans. This section also provides the opportunity to document formal project acceptance by key stakeholders.

Project managers are responsible for the project itself and for related documentation. Such documentation -- feasibility studies, acquisition plans, implementation plans, project plans, risk assessment and mitigation plans, quality assurance (QA) plans and project status reports, as appropriate -- are included in agency portfolios by reference but agencies are not required to submit them with the portfolio. The portfolio model assumes that projects, investments, acquisitions and assets have current documentation available and accessible for use by agency executives, IT personnel, QA professionals and those acting on behalf of the ISB.

The requirements for completing this section are itemized in Appendix D. Agencies may respond to the requirements in tabular form or through brief narratives, as appropriate.

Section 5: Planned Investments/Projects

The Planned Investments/Projects section of the portfolio closely parallels the contents of a traditional financial portfolio. It provides an opportunity for agency executives to view IT investment alternatives in context, rather than as isolated projects. Each investment in IT must be viewed in relation to:

- Its impact on the business of the agency - as represented by the Agency Strategic Business Plan section of the portfolio
- Its impact on the agency's technical environment - the Agency Technical Infrastructure
- Its priority as measured against current investments and other proposed investments - the Agency Investment Plan
- The impact, if any, on the statewide IT infrastructure

For purposes of the Portfolio, an **investment** is defined to be a specific piece of hardware/peripherals or a software application developed at agency expense or acquired from vendors, or any combination of these events, that serves current and future needs of the agency.

A **planned or proposed investment** is a project that entails the acquisition of a new capability that is identified in general terms, but not yet funded or approved by the authorizing authority.

A **project** is an investment in process (i.e. the value of the expenditures become an investment when the project produces a predefined capability without further investment) that has a specific start and finish date.

The Planned Projects/Investments section is comprised of a summary analyses of each project and proposed technology investment, including information for contacting the project manager.

The requirements for completing this section are itemized in Appendix E. Agencies may respond to the requirements in tabular form or through brief narratives, as appropriate.

Information Technology Portfolio Structure and Content
Appendix A

Severity Level Criteria

	Impact on Citizens	Visibility	Impact on State Operations	Nil Consequence
High	• Direct contact with citizens – including benefits to, payment by, and transactions with individuals.	• Highly visible to public and Legislature. • Total budget cost of $10 million or more. • Multiple agency involvement.	• Statewide or multiple agency impact. • Mainframe acquisitions and networks.	• Inability to meet legislative mandate or agency mission. • Loss of significant federal funding.
Medium	• Indirect impact on citizens – activity management systems that support decisions that are viewed as important by the public.	• Some visibility to the Legislature; the system or the program(s) it supports likely to be subject to hearings.	• Agency wide.	• Potential failure of aging systems.
Low	• Agency operations only.	• Internal agency only.	• Work group.	• Loss of opportunity for improved service delivery or efficiency.

Risk Level Criteria

The risk criteria provide a mechanism to help gauge the impact of the project on the organization, the level of effort needed to complete the project, the stability of the proposed technology, and agency preparedness.

	Organizational Impact	Development Effort	Technology	Capability
High	• Significant change to business rules. • Complex business processes. • Multiple organizations involved.	• High development/ system integration costs ($10 million or more). • Over 3 years in development. * • Level of effort. For example, more than 30 staff years (Full-Time Equivalent (FTE) & Contractors) and/or more than 4000 function points.	• Emerging. • Unproven. • New for state.	• Immature organization. • Uses ad-hoc processes. • Agency track record suggests inability to mitigate risk on project requiring a given level of development effort.
Medium	• Moderate changes to business rules. • Medium complexity.	• Up to 29 staff years (FTE & Contractors). • 2-3 years in development* • $2-$10 million.	• Proven in industry or at state level. • New to agency or program areas.	• Maturing organization. • Agency track record indicates reasonable level of success but without the structure for repeatability.
Low	• Insignificant or no change to business rules. • Low complexity business process(es).	• Under 10 staff years (FTE & Contractors). • Under $2 million. Under 2 years in development.*	• Standard, proven agency technology.	• Mature organization. • Agency track record indicates strong ability to mitigate risk to a project requiring a given level of development effort. • Stable organization, documented and repeatable processes for tracking status, problems, and change.

*Clock starts after feasibility study or project approval.

Information Technology Portfolio Structure and Content
Appendix B

Categories of Applications

Utility applications support administrative and support functions that are not unique to the agency, although a utility application may be tailored to accommodate specific aspects of agency operations. Examples include most accounting, human resource, and business services applications. Performance of utility applications is typically judged in terms of efficiency. Commercially available and multi-agency systems are often appropriate in this category.

Program-specific applications support business processes and service-delivery activities that are specific to the agency's mission and program requirements. In most cases, these applications were developed to meet agency needs, although increasingly they are based on heavily tailored commercial packages. Performance of program-specific applications is typically judged in terms of their contribution to overall program effectiveness. This category probably constitutes the bulk of legacy systems in state agencies.

Enhancement applications support fundamental innovations in the delivery of program services or the transformation of business processes. Like program-specific applications, enhancement applications are closely tied to agency mission and program requirements; they differ in that they are associated with fundamental changes in the way the agency does business and may be the outcome of business process improvement or reengineering activities.

Information Technology Portfolio Structure and Content
Appendix C

Agency Technology Infrastructure

Subsections A through G have been completed for the current reporting cycle through the Performance Report and the Year 2000 compliance effort. Agencies are encouraged to provide an agency wide roll up, but may present information by division, depending on their standard practices.

A. Current and Projected IT Spending

	Hardware Purchase	**Hardware Lease**	**Software Purchase**	**Software Lease**	**Software Maintenance**
Current Biennium (Actual)					
Next Biennium (Projected)					
	Telecom-munication Services	**Data Processing Services**	**Repairs and Maintenance**	**Professional Development of IT Staff**	**End User IT Training**
Current Biennium (Actual)					
Next Biennium (Projected)					

B. IT Personnel

	Total Agency IT FTEs	**Salaries and Benefits**	**Personal Service Contracts**	**Professional Development**
Current Biennium (Actual)				
Next Biennium (Projected)				

C. Personal and Workgroup Computing

- What is total agency staffing in FTEs (as reported in OFM Data Book for the current biennium)?

- How many personal computers (PCs) does the agency currently have (by generation- Pentium II, Pentium, 486, 386, other)?

- How many PCs does the agency plan to acquire during the next biennium?

  – Additions? (Additions involve procurements to add computers to serve an increase in the number of personnel.)

  – Replacements? (Replacements involve procurements to add capacity either to the existing processing capability or to more effectively network the agency.)

- What percent of agency PCs are linked into local area networks (LANs)?

- What LAN network operating systems are currently employed?

- What percent of agency PCs have Internet access?

D. Security and Disaster Recovery/Business Resumption Plans

Security and Disaster Recovery/Business Resumption Plans are included in the portfolio by reference. Agencies are not required to submit them. Instead, agencies will indicate the physical location of the unique authoritative copies of the plans and indicate contact information for the steward of those plans (and stipulate that they were developed/ maintained in accordance with published ISB policy.)

E. Public Access

Describe the agency's "progress toward [providing] electronic access to public information and enabling citizens to have two-way interaction … for obtaining information and services…" (RCW 43.105.270).

F. Application (Systems) Information

This section is useful in providing information about the production applications existing at an agency. For the purpose of the portfolio, an application or system is a group of related automated procedures that support a business objective.

Provide the following information for each mission critical IT application. Mission critical applications are high risk application systems. With a mission critical application, even short-term loss of the functionality provided by the application would have significant negative impact on:

- The health or safety of the public or state workers;
- Income maintenance for citizens or government employees;
- Payments to vendors for goods and services; or
- The legal or fiscal integrity of state operations.

In addition to mission critical applications, agencies are encouraged to include information in their portfolios about any application deemed important to the agency or to other stakeholders. Agencies are also encouraged to include supplemental information in their portfolios if useful for managing or reporting. The following list, while not exhaustive nor mandatory, is encouraged. Agencies may indicate in their portfolios if they do not currently capture an element listed below.

1. Provide name of application.

2. Provide name of application owner (e.g. IS Mgr./owner).

3. Provide name of customer/business area owner.

4. Indicate type of application (accounting, human resource, program or agency specific such as claims management, tax collection, etc.) Additional application types are defined in Appendix B.

5. Provide a brief description of the application.

6. Provide an estimate of the number of users.

7. Indicate which agency strategies, programs, and business processes are supported by the application.

8. Indicate when the application was originally implemented.

9. If the application has been significantly modified, indicate when.

10. Indicate how many technical staff FTEs are required to maintain and support the application.

11. Indicate if replacement or major modification of the application is planned. If so, briefly describe the modification and indicate its planned start date.

12. Indicate ownership of application (owned by agency, leased from vendor, owned and operated by vendor)

13. Provide application size and technical characteristics (number of lines of code or function points, primary technology platform, site of platform (agency, DIS, etc.), operating system, primary language (COBOL, Natural, etc.), and database management system used.

14. List interfaces to other major systems.

It is important for executive management of the agency to understand the current application portfolio in order to manage current activities and plan for the future. Agencies are encouraged to use the application information to assist with the management of IT. Suggested summary reports to include in the portfolio include:

- Statistics comparing applications from year to year
- Age of applications
- Packaged applications supported
- Number of platforms used by applications
- Operating systems in use
- Languages used by applications
- Database types used
- Applications by customer/business area
- Applications by manager/owner
- Number of FTEs providing maintenance and support
- Estimated cost of maintenance & support

G. Database Information

The purpose of this section is to provide information about existing databases in the agency.

Provide the following information for each mission critical database. Mission critical databases support high risk application systems. With a mission critical database, even short-term loss of the functionality provided by the application and database would have significant negative impact on:

- The health or safety of the public or state workers;
- Income maintenance for citizens or government employees,
- Payments to vendors for goods and services; or
- The legal or fiscal integrity of state operations.

In addition to mission critical databases, agencies are encouraged to include information in their portfolios about any database deemed important to the agency or to other stakeholders. Agencies are also encouraged to include supplemental information in their portfolios if useful for managing or reporting. The following list, while not exhaustive nor mandatory, is encouraged. Agencies may indicate in their portfolios if they do not currently capture an element listed below.

1. Database name (DB2, ADABAS, Oracle, etc.)

2. List of applications supported

3. High-level description (what type of data does it collect)

4. Location (Agency, DIS, vendor facility)

5. Ownership of database (e.g. IS Mgr./owner).

6. Size of database in terms of data storage requirements

7. Number of records in the database

8. Frequency with which records are added, modified, and deleted

9. Backup frequency

It is important for executive management of the agency to understand the current database portfolio in order to manage current activities and plan for the future. Agencies are encouraged to use the database information to assist with the management of IT. Suggested summary reports to include in the portfolio include:

- Statistics comparing databases from year to year
- Age of database
- Number of platforms
- Database by manager/owner
- Number of FTEs providing maintenance and support
- Estimated cost of maintenance & support

Information Technology Portfolio Structure and Content Standard
Appendix D

Technology Investment/Project Summaries: Summary of each current technology investment.

Title	Description/Purpose	Cost Estimate	FTEs*	Schedule	Scope	Business Driver/Strategy Supported	Executive Sponsor	Project Manager
Project, investment, acquisition name (ranked by priority)	A brief, non-technical description of the purpose of the project, application or asset. **4-Digit Year Compliance:** Indicate 4-digit Year Field Compliance per ISB Year 2000 policy amendment (November 1998).	Total project costs, development cost, total operations cost, and total project cost - current biennium & lifecycle - by phase as appropriate (i.e., budgeted amount or budget allocation).		Start/Finish dates, by phase, as appropriate.	Organizational context (work group, agency-wide, statewide). Related functional areas outside the project scope. Risk (low, medium, high). Impact on, or relationship to, statewide infrastructure.	Major business functions or processes supported. Measurable benefits (and/or mandated by statute. Cite RCW).	Name Title Phone E-mail	Name Title Phone E-mail

* FTEs should include both State FTEs and contractor FTEs, reported separately

Information Technology Portfolio Structure and Content Standard
Appendix E

Planned Investments/Projects: Summary of each planned or proposed technology investment.

Title	Description/ Purpose	Cost Estimate	FTEs[1]	Schedule	Impact on existing investments	Scope	Business Driver/ Strategy Supported	Executive Sponsor	Project Manager
Project, investment, acquisition name (ranked by priority).	A brief, non-technical description of the purpose of the project, application or asset. **4-Digit Year Compliance:** Indicate 4-digit Year Field Compliance per ISB Year 2000 policy amendment (November 1998).	Total project costs, development cost,[2] total operations cost, and total project cost - current biennium & lifecycle - by phase as, appropriate.		Start/Finish dates, by phase, as appropriate.	Changes to agency applications, and systems. Impact on, or relationship to, statewide infrastructure.	Organizational context (work group, agency-wide, statewide). Related functional areas outside the project scope. Risk (low, medium, high).	Major business functions or processes supported. The measurable results that will be achieved as a result of completing this project (and/or mandated by statute. Cite RCW). Summary of tangible and intangible benefits for the project.	Name Title Phone E-mail	Name Title Phone E-mail

[1] FTEs should include state FTEs and contract FTEs, reported separately.

[2] Including as appropriate: Total Net Cash Flow: the sum of the net cash flow line from the cost/benefit analysis; and, Use best business practices - Net Present Value (NPV), Return on Investment (ROI), or breakeven analysis (recommended by GAO and the Institute for Software Process Management). Agencies may use substitute methodologies/metrics they find useful and effective. The agencies are strongly encouraged, but not required, to report these indicators. Recommended reference: Peter Weill and Marianne Broadbent, *Leveraging the New Infrastructure - How Market Leaders Capitalize on Information Technology*, Boston,: Harvard Business School Press, 1998.